

**THE** **NEW** **YORK** **PUBLIC** **LIBRARY**

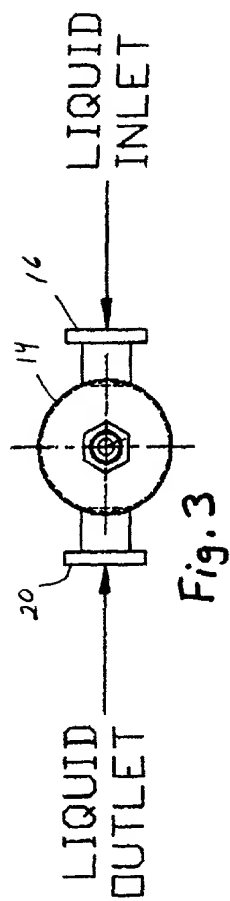


Fig. 3

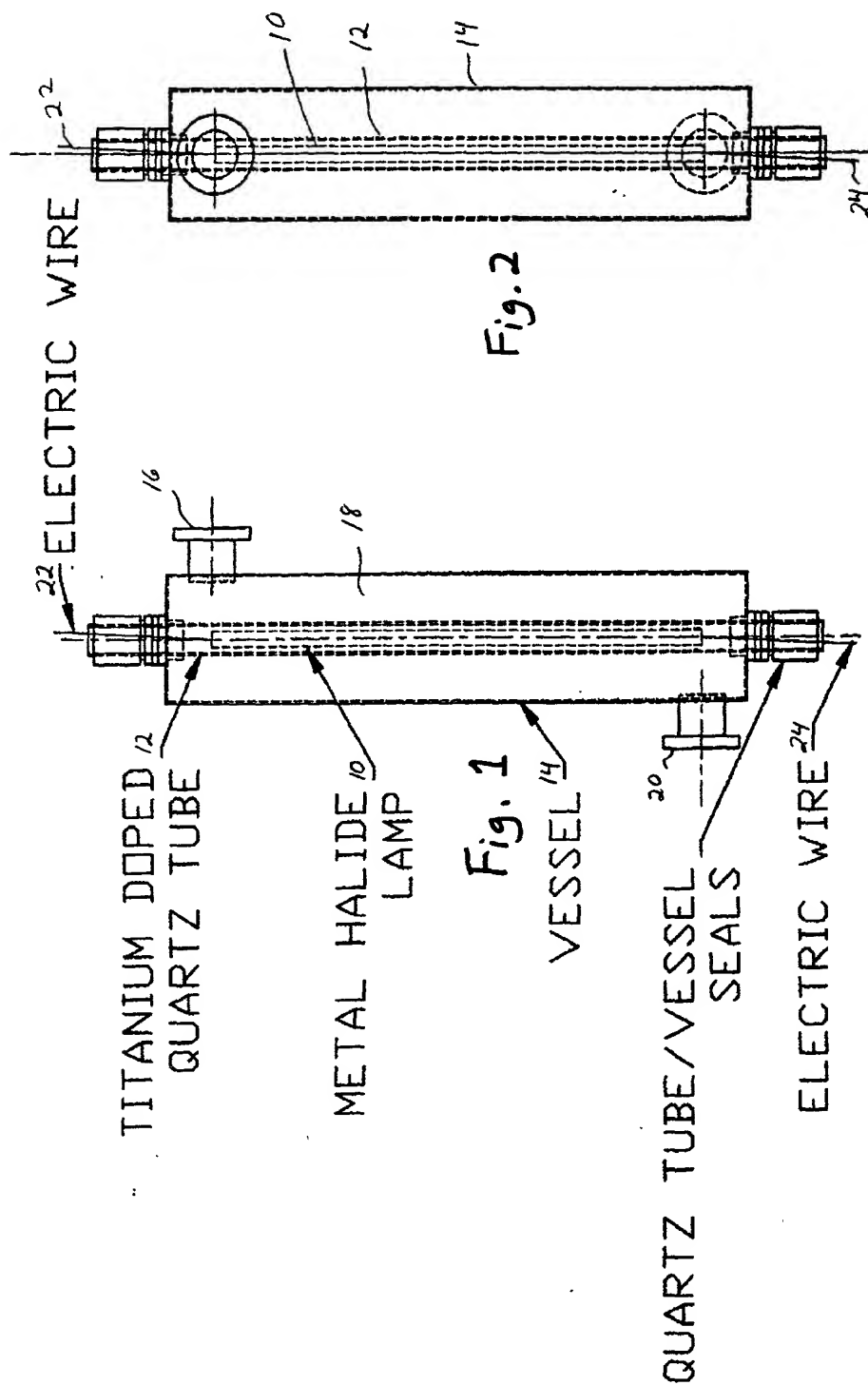


Fig. 2

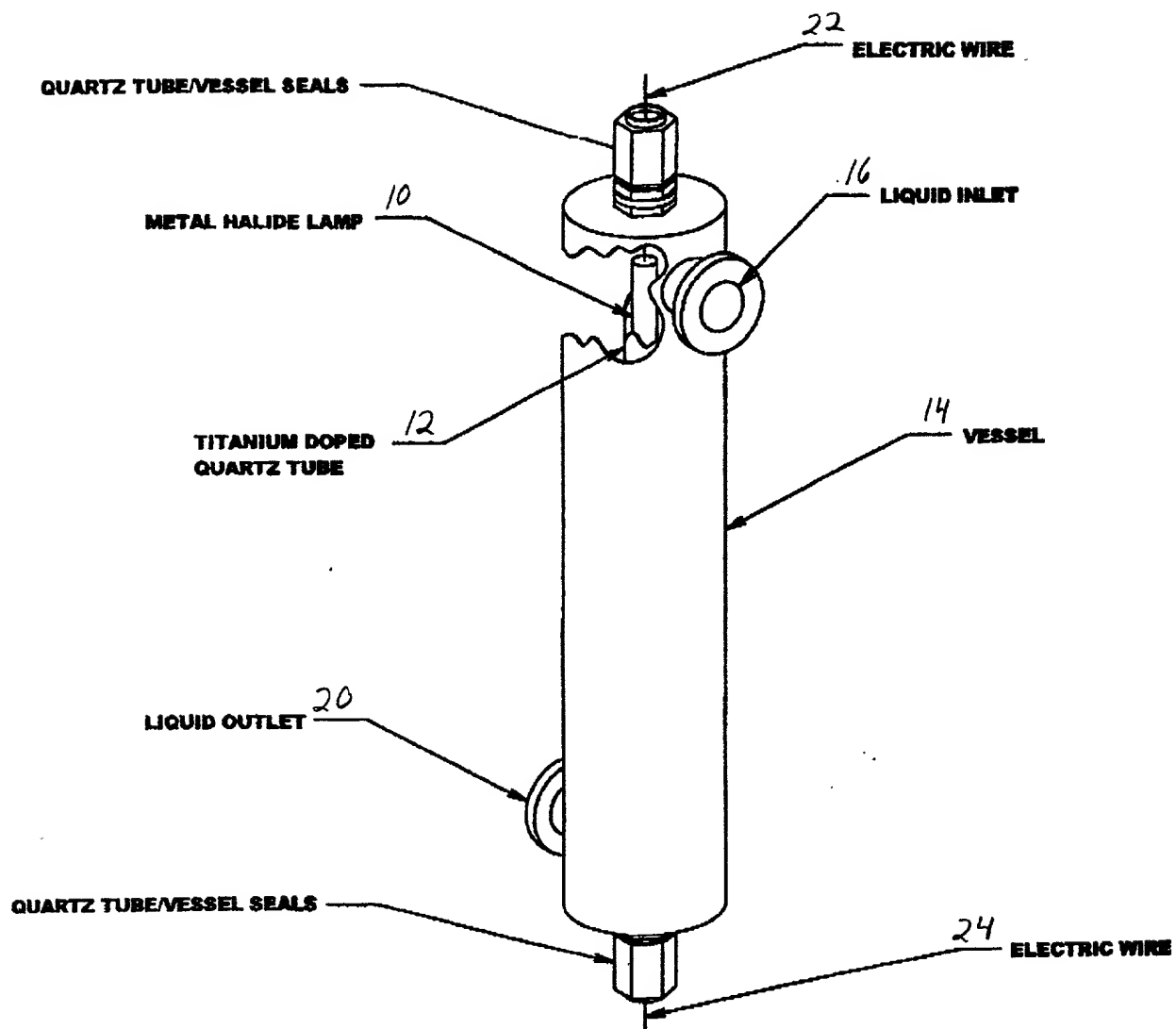


Fig. 4

09003825.012302

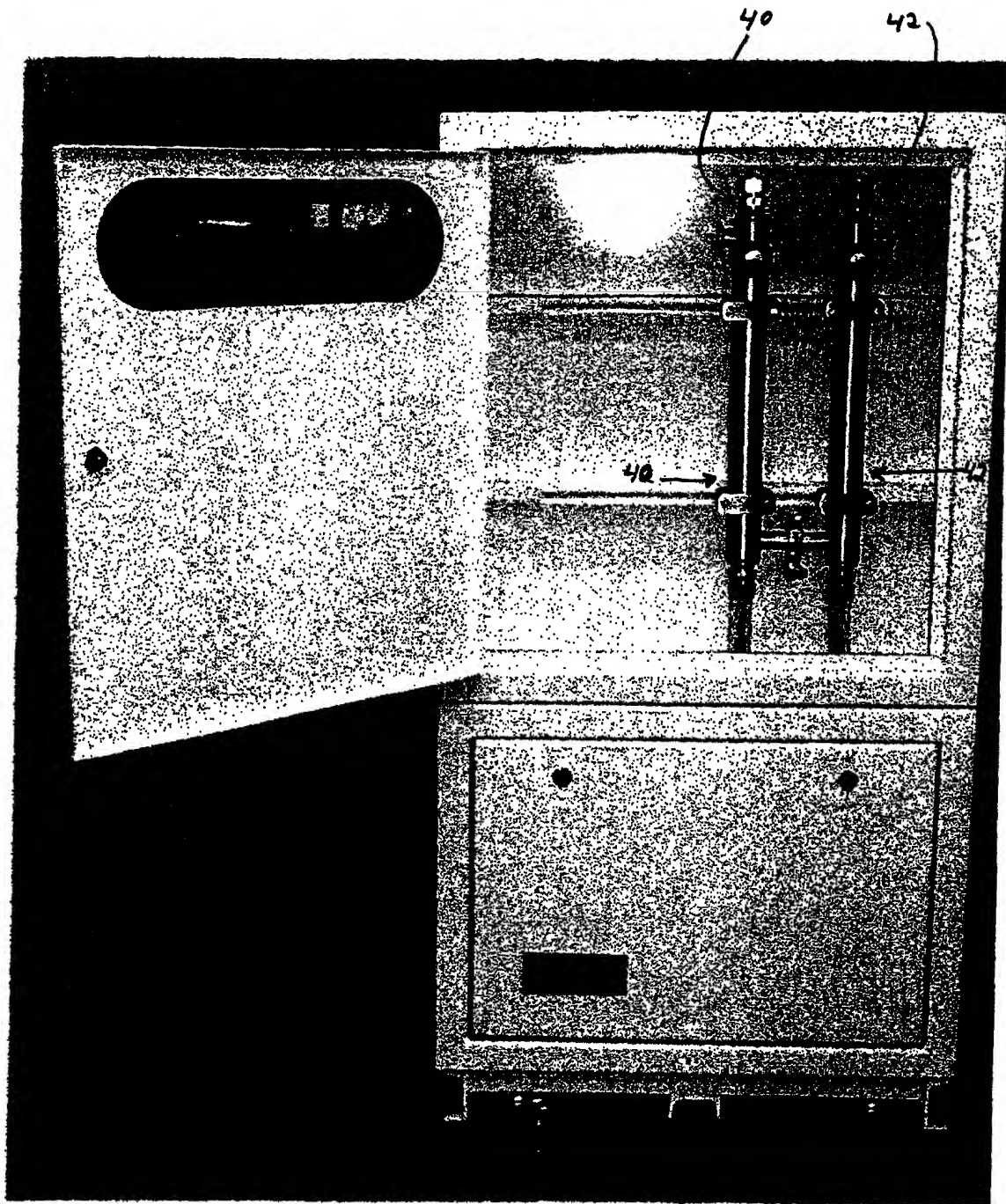
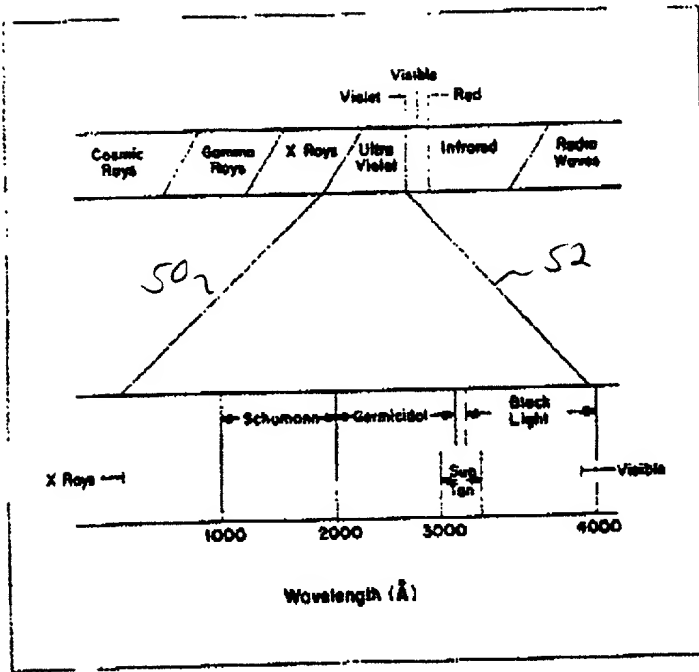
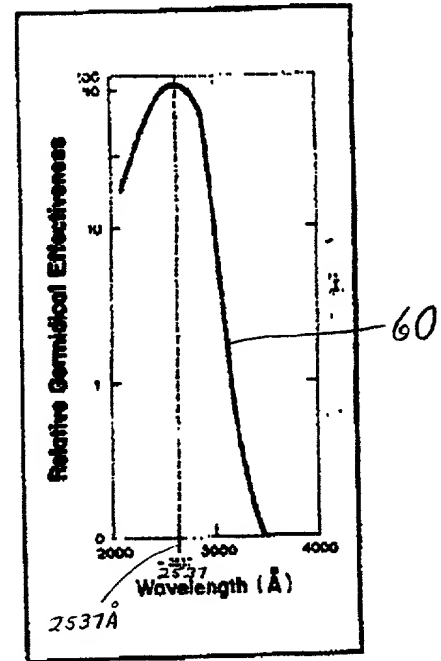


FIG. 5



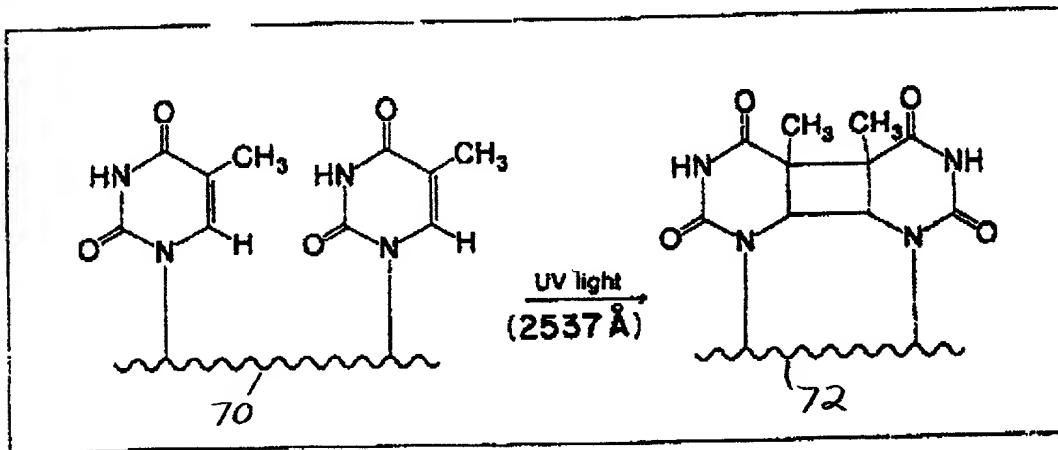
Electromagnetic spectrum (enlargement of ultraviolet region).

FIG. 6



Bacterial effectiveness curve showing the relative effectiveness of various wavelengths in killing bacteria.

FIG. 7



Ultraviolet light causes adjacent thymines (or cytosines) in DNA to dimerize. The rippled lines at the bottom of the structures represents the deoxyribose-phosphate backbone of the DNA strand.

FIG. 8

2025 RELEASE UNDER E.O. 14176

Result of E- Coli Culture Tests on E-Coli 0157:H7

Culture Read on Cider 9/4/98 (Blood Agar Plates - 3 Dilutions)

	Cider SIAD Treated 1	Cider SIAD Treated 2	Cider Control E. coli-Not Treated	Cider Cont No E. Coli
.5cc	No Growth	No Growth	Confluent Growth	No Growth
.1cc	No Growth	No Growth	Some Confluent Growth >10,000 col/ml E.Coli	No Growth
.001cc	No Growth	No Growth	75,000 col/ml E. Coli	No Growth

FIG. 9

090333Z 010900Z

Robert E. Ductile, Jr. Jan 68

5 GAL. TROPICANA GROVESTAND "LOTS OF PULP" ORANGE JUICE INOCULATED WITH E-COLI ATCC 11229

TRIAL	TIME(MIN)	TEMP1(F)	TEMP2(F)	PRIM. I	PRIM. E	LAMP(W)	GPM	TUBE1(F)	TUBE2(F)	TEMP3(C)	TEMP4(C)	ECOLI(%)
21	1	175	175	7.5	237	1777.50	10	70	70	18	18	100
22	2	225	225	9.9	236	2336.40	10	70	70	16	17	100
23	2.25	235	235	11	236	2596.00	10	70	72	17	18	100
24	2.5	240	240	11.5	236	2714.00	10	72	74	17	18	100
25	2.75	245	245	11.8	236	2784.80	10	74	76	17	18	100
26	3	250	250	12.4	235	2914.00	10	76	78	18	20	100
27	3.25	260	260	12.8	238	3020.80	10	78	80	19	21	80
28	3.5	270	270	13	236	3088.00	10	80	83	21	22	83
29	3.75	280	280	13.2	236	3115.20	10	80	86	21	24	58
30	4	300	300	13.2	236	3115.20	10	84	87	23	25	50
31	4.5	300	300	13.2	236	3115.20	10	85	88	23	26	25
32	5	300	300	13.2	236	3115.20	10	87	90	25	26	18
33	5.5	300	300	13.2	236	3115.20	10	87	92	28	28	8
34	6	300	300	13.2	236	3115.20	10	90	90	26	31	0
35	6.5	300	300	13.2	236	3115.20	10	92	95	28	30	0
36	7	300	300	13.2	236	3115.20	10	90	92	30	33	0
37	7.5	300	300	13.2	236	3115.20	10	90	94	32	36	0
38	8	300	300	13.1	237	3104.70	10	90	95	34	38	0
39	10	300	300	13.2	236	3115.20	10	100	105	38	44	0
40	12.5	305	305	13.2	236	3115.20	10	110	112	43	52	0

**NOTE: SUGAR CONTENT REMAINED CONSTANT IN ALL TRIALS**

TEMP1=LAMP1

TEMP2=LAMP2

**TUBE1=(IN)OUTSIDE**

TUBE2=OUTOUTSID

TEMP3=JUICE IN

TEMP4=JUICE OUT

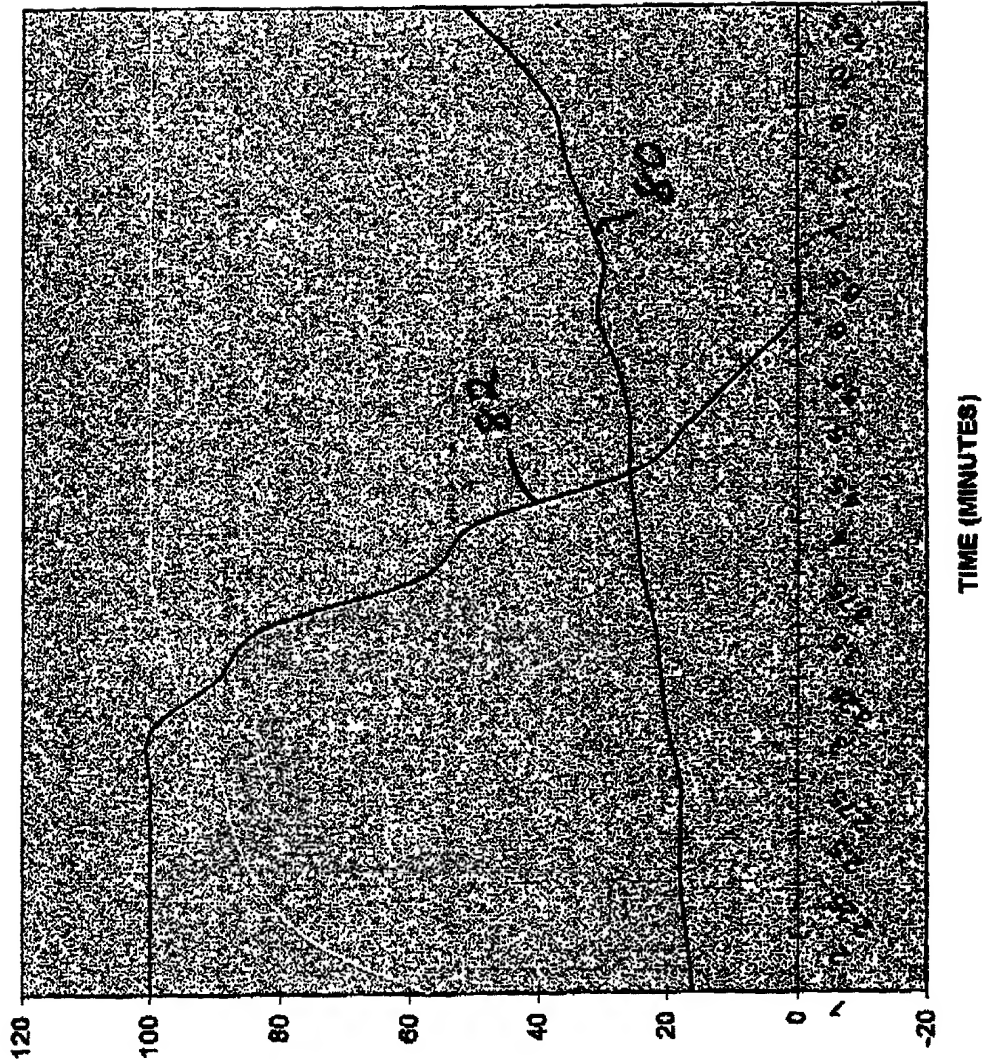
| AMP(VU) | AMP1

CAVIT (49)-CAVIT-1  
ECOT 100%-101 06

F16.10

206210" 528E0660

TEST ON E-COLI (ATCC11229) INOCULATED ORANGE JUICE



80 ORANGE JUICE TEMPERATURE  
(DEGREES C)  
82 E-COLI IN ORANGE JUICE (%)  
POWER (WATT) OUTPUT OF SIAD  
LAMPS (%)

FIG. 11

5 GAL. TROPICANA GROVESTAND "LOTS OF PULP" ORANGE JUICE INOCULATED WITH E-COLI ATCC 25922

TRIAL	TIME(MIN)	TEMP1(F)	TEMP2(F)	PRIM. I	PRIM. E	LAMP(W)	GPM	TUBE1(F)	TUBE2(F)	TEMP3(C)	TEMP4(C)	ECOLI(%)
1	1	175	175	8.5	238	2008.00	10	70	70	16	16	100
2	2	225	225	10.8	238	2548.80	10	70	70	16	17	100
3	2.25	235	235	11	238	2598.00	10	70	72	17	18	100
4	2.5	240	240	11.5	238	2714.00	10	72	74	17	18	100
5	2.75	245	245	11.5	235	2702.50	10	73	75	18	18	100
6	3	250	250	11.8	235	2773.00	10	75	78	18	20	100
7	3.25	260	260	11.8	235	2773.00	10	75	78	20	22	92
8	3.5	270	270	12.5	235	2937.50	10	76	80	21	22	83
9	3.75	280	280	13.3	235	3125.50	10	78	82	21	24	58
10	4	300	300	13.3	235	3125.50	10	80	85	23	25	50
11	4.5	300	300	13.3	235	3125.50	10	82	88	23	28	50
12	5	300	300	13.3	235	3125.50	10	85	90	25	28	50
13	5.5	300	300	13.3	235	3125.50	10	87	92	26	28	41
14	6	300	300	13.3	235	3125.50	10	88	93	26	30	41
15	6.5	300	300	13.3	238	3138.80	10	92	95	28	30	25
16	7	300	300	13.3	235	3125.50	10	95	100	30	33	8
17	7.5	300	300	13.3	235	3125.50	10	100	105	32	36	0
18	8	300	300	13.3	235	3125.50	10	100	105	34	37	0
19	10	300	300	13.3	235	3125.50	10	100	105	38	42	0
20	12.5	305	305	13.3	235	3125.50	10	110	112	43	51	0

NOTE: SUGAR CONTENT REMAINED CONSTANT IN ALL TRIALS

TEMP1=LAMP1

TEMP2=LAMP2

TUBE1=(IN)OUTSIDE

TUBE2=(OUT)OUTSIDE

TEMP3=JUICE IN

TEMP4=JUICE OUT

LAMP(W)=LAMP1

ECOLI 100%=10LOG

FIG. 12



TEST ON E-COLI (ATCC 25922) INOCULATED ORANGE JUICE

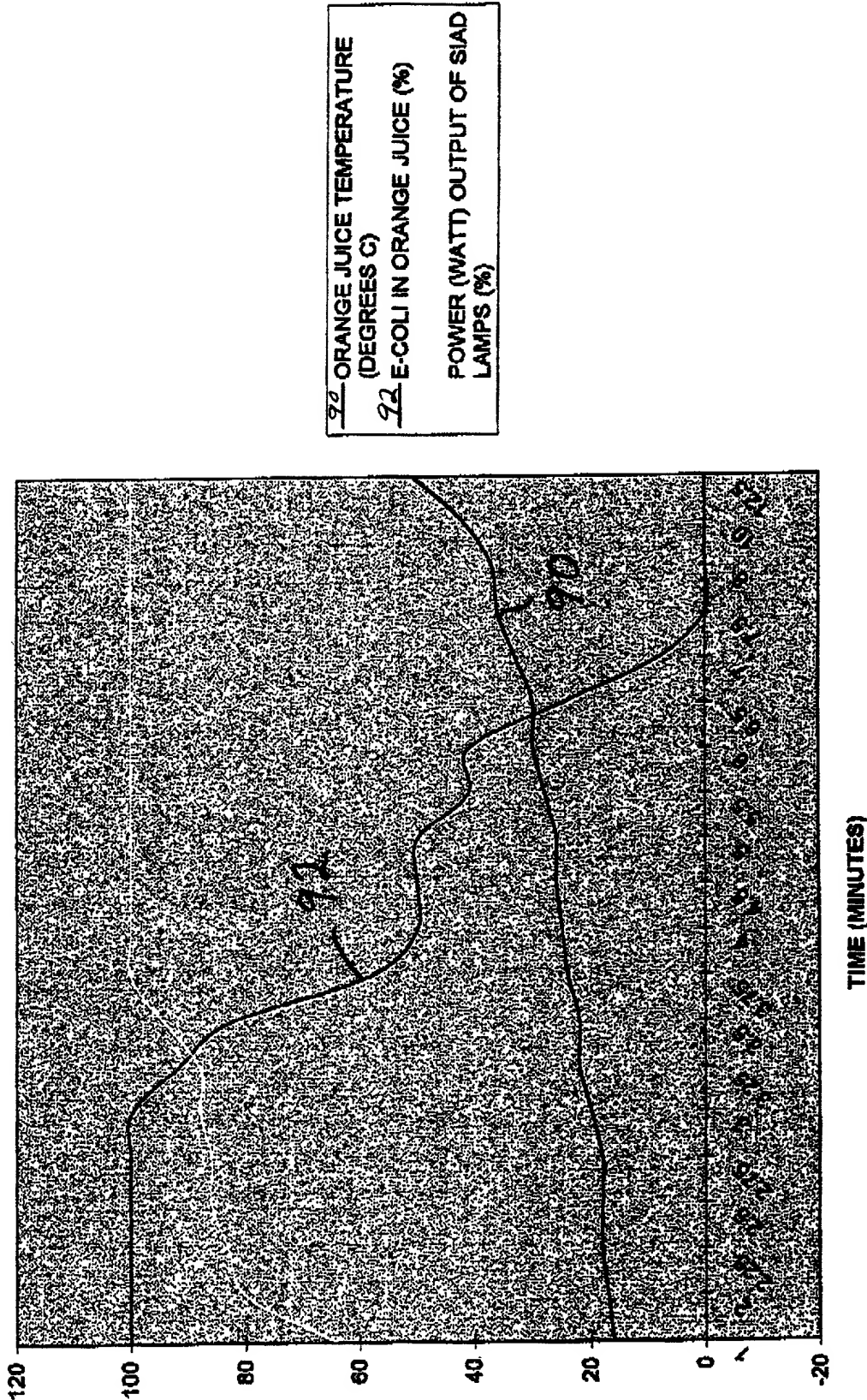


FIG. 13